

The Three Dimensions in the Oklahoma Academic Standards for Science

Dimension 1: Science and Engineering Practices

1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Dimension 2: Crosscutting Concepts

1. Patterns
2. Cause and effect: Mechanism and explanation
3. Scale, proportion and quantity
4. Systems and system models
5. Energy and matter: Flows, cycles, and conservation
6. Structure and function
7. Stability and change

Dimension 3: Disciplinary Core Ideas

Physical Science

PS1: Matter and Its Interactions

PS2: Motion and Stability: Forces and Interactions

PS3: Energy

PS4: Waves and Their Applications in Technologies for Information Transfer

Life Science

LS1: From Molecules to Organisms: Structures and Processes

LS2: Ecosystems: Interactions, Energy, and Dynamics

LS3: Heredity: Inheritance and Variation of Traits

LS4: Biological Unity and Diversity

Earth and Space Sciences

ESS1: Earth's Place in the Universe

ESS2: Earth's Systems

ESS3: Earth and Human Activity